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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/434,027 | 11/04/1999 | MARTIN BLUMENFELD | 09531-091001/99186 | 3391 |

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EXAMINER

NGUYEN, TU T

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2877

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/434,027

Applicant(s)

BLUMENFELD ET AL.

Examiner

Tu T Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 23 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-97 is/are pending in the application.
- 4a) Of the above claim(s) 39, 40, 52, 53, 66-77 and 88-97 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38, 41-51, 54-65 and 78-87 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 6, 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Detailed Office Action

Election/Restriction

Applicant's election without traverse of group I (claims 1-38, 41-51, 54-65, 78-87) in Paper No. 14 is acknowledged.

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 5, 16, 27, 32-33, 38, 41, 44, 58-59, 81 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) Regarding claims 1-2, 27, 32-33, 41, 58-59, 81, the phrase "substantial" renders the claim indefinite because it is not clear how the light directed onto the detector pixel. See MPEP § 2173.05(d).

2) Claims 5, 16, recites the limitation "the optical fiber". There is insufficient antecedent basis for this limitation in the claim.

3) Claim 38, lines 2-3, the term "neutral density filter being used to block some of the source light without filtering out any wavelengths of light" seems to be contradict. It is not

clear why applicant use the filter without filtering out any wavelengths of light.

4) Claim 44, lines 1-2, the term “the optical lens being used to map an image of the sample surface onto the electronic light detector array is zero” is not clear. It is not clear how to map an image to the zero detector array.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26,27-38,41-51,54-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al (5,633,724) in view of Anderson (4,088,561).

With respect to claims 1,27,31,41, King discloses a nucleic acid chip 102 (fig 1), a light source 106 (fig 1), an electronic light detector array 120 (fig 1) (column 2, 60-67),

King does not explicitly disclose the chip containing a flat sample surface and an opposed surface. Anderson discloses a sample holder 39 (fig 4) containing two flat surfaces 41. It would have been obvious to modify King with Anderson’s sample holder to control the sample easier.

King does not disclose a filter. However, using a filter for filtering wavelengths would have been known in the art. It would have been obvious to modify King with the known filter

to filtering out the unwanted wavelengths.

With respect to claims 2-5,28-30,42-43, since King discloses the detector array 120 (fig 1), King would have been inherent disclosed the claimed limitations.

With respect to claims 6-9,44-47, King does not explicitly disclose a mapping lens as claimed. However, using a mapping lens for mapping light rays to the detectors would have been known. It would have been obvious to modify King with the known mapping lens to control the light rays better.

With respect to claim 10, it would have been obvious a design choice to combine the lens and the filter into one apparatus to make the system more efficiency.

With respect to claims 11-26,32-38,56-65, it would have been obvious a design choice to modify Anderson's chip 39 (fig 4) with different known materials or different arrangements to facilitate the testing. The modification involves only routine skill in the art.

With respect to claims 48-51,54-55, the claimed light source would have been known. It would have been obvious to modify King with different light sources to test different samples.

Claims 78-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (4,088,561) in view of Lakowicz (WO 99/36578).

With respect to claim 78, Anderson discloses a sample holder. The holder comprises a light-transmitting material top and bottom surfaces (fig 4). Anderson does not explicitly the sample is an immobilized nucleic acid sequences. However, it would have been obvious a design choice to substitute Anderson's sample with different types for different purposes. The modification involves only routine skill in the art.

With respect to claim 79, Anderson does not disclose a filter. Lakowicz discloses a filter (fig 1). It would have been obvious to add Lakowicz's filter to Anderson's sample holder to filter out the unwanted wavelengths.

With respect to claims 80-81, Lakowicz discloses the filter. However, Lakowicz does not explicitly disclose the claimed wavelength range for the filter. Since Lakowicz discloses the filter, it would have been obvious a design choice to choose different wavelength ranges for testing different characteristics of the sample.

With respect to claims 82-87, the claimed optical lens would have been known in the art. It would have been obvious to modify Anderson with the known optical lens to utilize the system. Further, it would have been obvious a design choice to choose the lens with different focal length to test different characteristic of the sample.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Tu Tuan Nguyen

Patent Examiner TC 2877

3/9/03